

## **Angle-resolved photoemission study of "misfit" cobaltates**

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Describing the motion of holes on a triangular Co lattice is a fundamental challenge, because of the interplay between strong correlations, magnetic frustration, orbital degeneracy and possibly charge ordering effects. All these ingredients are found in Na cobaltates,  $\text{Na}_x\text{CoO}_2$ , which have recently attracted a lot of attention. They exhibit a rich phase diagram as a function of the number of holes in the triangular  $\text{CoO}_2$  slabs, with superconductivity, magnetism, metal-insulator transition or metallic phases with high thermoelectric power. Angle-resolved photoemission studies of these compounds play an essential role in understanding the evolution of the electronic structure or the nature of correlations.

We will present an ARPES study of a related family, the misfit cobaltates. These compounds contain structurally equivalent  $\text{CoO}_2$  slabs, but they are stacked with rocksalt planes instead of Na layers. We will establish the basic similarity of their electronic structure with that of Na cobaltates. We will then focus on the evolution of the electronic structure through a metal-insulator transition that occurs in these phases at small hole dopings and does not have an equivalent in Na cobaltates.

This work was done at the SIS beamline of the Swiss Light Source and the BACH and APE beamlines of the Italian synchrotron Elettra.